

Serial No. 10/090,446  
Group Art Unit No. 1764  
Reply to Office Action of February 24, 2004

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (cancelled)

Claim 2 (cancelled)

Claim 3 (cancelled)

Claim 4 (cancelled)

Claim 5 (cancelled)

Claim 6 (cancelled)

Claim 7 (cancelled)

Claim 8 (cancelled)

Claim 9 (cancelled)

Claim 10 (cancelled)

Claim 11 (cancelled)

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Claim 12 (cancelled)

Claim 13 (cancelled)

Claim 14 (cancelled)

Claim 15 (cancelled)

Claim 16 (cancelled)

Claim 17 (cancelled)

Claim 18 (cancelled)

Claim 19 (cancelled)

Claim 20 (cancelled)

Claim 21 (cancelled)

Claim 22 (cancelled)

Claim 23 (cancelled)

Claim 24 (cancelled)

Claim 25 (currently amended): A process for preparing Mineral Turpentine Oil (MTO) having boiling point in the range of 145° to 205°C and having saybolt color rating better than + 20 from crude oil feed rich in nitrogen and / or active sulphur, said process comprising:

distilling the crude oil to obtain Kerosene/Aviation Turbine fuel (ATF) cut;  
subjecting the Kerosene/ATF cut to Merox treatment for removing mercaptans followed by passing it through at least one column containing fullers earth;  
distilling the Merox treated Kerosene/ATF cuts to obtain MTO having boiling point in the range of 145° to 205°C and saybolt color rating less than +20; and  
subjecting the MTO thus obtained to liquid phase adsorption in at least one column containing an adsorbent substance selected from molecular sieves, modified clays and mixtures thereof at ambient temperatures and pressure.

Claim 26 (original): A process as claimed in claim 25, wherein the crude oil feed is selected from the group comprising of Nigerian low sulphur crude, PG mix high sulphur crude or a mixture thereof.

Claim 27 (cancelled)

Claim 28 (cancelled)

Claim 29 (cancelled)

Claim 30 (cancelled)

Claim 31 (cancelled)

Claim 32 (cancelled)

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Claim 33 (cancelled)

Claim 34 (cancelled)

Claim 35 (cancelled)

Claim 36 (cancelled)

Claim 37 (cancelled)

Claim 38 (cancelled)

Claim 39 (new): A process as claimed in claim 25, wherein the MTO has saybolt color rating in the range of +5 to +20.

Claim 40 (new): A process as claimed in claim 25, wherein the MTO has total nitrogen content of 5.2 ppm.

Claim 41 (new): A process as claimed in claim 25, wherein the MTO has total sulfur content of 0.136% wt.

Claim 42 (new): A process as claimed in claim 25, wherein the MTO has total mercaptan content of 2.5ppm.

Claim 43 (new): A process as claimed in claim 25, wherein the MTO has boiling point in the range of 180 to 205°C.

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Claim 44 (new): A process as claimed in claim 25, wherein the MTO has saybolt color rating in the range of +20 to + 30.

Claim 45 (new): A process as claimed in claim 25, wherein the MTO has total nitrogen content equal to or less than 1 ppm.

Claim 46 (new): A process as claimed in claim 25, wherein the MTO has total nitrogen content less than 1 ppm.

Claim 47 (new): A process as claimed in claim 25, wherein the MTO has zero mercaptan content.

Claim 48 (new): A process as claimed in claim 25, wherein the adsorption is carried out at a pressure of atmospheric to 20 kg/cm<sup>2</sup>.

Claim 49 (new): A process as claimed in claim 25, wherein the adsorption is carried out at an ambient temperature to 50°C.

Claim 50 (new): A process as claimed in claim 25, wherein the molecular sieve has a core diameter of 10 Angstroms.

Claim 51 (new): A process as claimed in claim 25, wherein the molecular sieve is 13X.

Claim 52 (new): A process as claimed in claim 25, wherein the clay is modified to increase its acidity.

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Claim 53 (new): A process as claimed in claim 25, wherein the clay is modified to increase its surface area.

Claim 54 (new): A process as claimed in claim 25, wherein the modified clay has residual acidity in the range of 8.5 to 16 mg KOH/g.

Claim 55 (new): A process as claimed in claim 25, wherein the modified clay has surface area in the range of 350 to 425 m.sq.<sup>2</sup>/g.

Claim 56 (new): A process as claimed in claim 25, wherein the adsorbent substance is regenerated by heating it at temperatures between 200 to 300°C.

Claim 57 (new): A process as claimed in claim 25, wherein the adsorbent substance is regenerated by heating it at temperatures between 200 to 300°C in nitrogen atmosphere.

Claim 58 (new): A process as claimed in claim 25, wherein said process can be carried out in batch wise or in continuous manner.